DOCUMENT RESUME

ED 387 650 CE 070 029

AUTHOR Pair, Claude
TITLE The Changing Role of Vocational and Technical Education and Training (VOTEC). Context, Actors, Challenges.
INSTITUTION Organisation for Economic Cooperation and Development, Paris (France).
REPORT NO DEELSA/ED/WD(94)34
PUB DATE Nov 94
NOTE 29p.; Background paper presented at a Meeting of the Organisation for Economic Cooperation and Development (Paris, France, November 38-30, 1994). For related documents, see CE 070 024-034.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Economic Development; *Educational Change; *Educational Environment; Educational Improvement; *Educational Needs; Educational Technology; Educational Trends; Education Work Relationship; Foreign Countries; Government School Relationship; Lifelong Learning; *Participant Characteristics; Partnerships in Education; Postsecondary Education; Program Design; *Role of Education; School Community Relationship; Secondary Education; Social Change; Synthesis; Systems Approach; Technological Advancement; Trend Analysis; *Vocational Education
IDENTIFIERS Organisation for Economic Cooperation Development

ABSTRACT

Reports analyzing vocational-technical education (VTE) in individual member countries of the Organisation for Economic Cooperation Development (OECD) were reviewed to identify changes in the role of VTE in the context of technological and structural change, economic crisis, and uncertainty. Major transformations in VTE affecting its organization, structures, and pathways were examined and attributed to the intervention and interaction of many different groups, including students, their parents, local and national governments, employers and trade unions, and educational institutions and teachers. It was discovered that VTE is currently facing two major challenges: reconciling "education" and "training" and strengthening democracy in the context of social and economic differentiation. The following strategies for meeting both challenges were examined: conceiving VTE as part of one unified system of lifelong learning; organizing educational pathways with multilevel exit points; addressing problems of flows inside educational systems and between education and employment "realistically"; responding to social and economic developments through innovation in curricula and certification; and improving partnership and cooperation and avoiding destabilization of existing formal VTE systems. Among the priorities established for VTE in OECD countries were the following: maintain a level of knowledge adapted to the modern world, promote shared values, and avoid tracking. (MN)

ED 387 650

ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

DIRECTORATE FOR EDUCATION, EMPLOYMENT,
LABOUR AND SOCIAL AFFAIRS

RESTRICTED

Paris, drafted: 7-Nov-1994
OLIS: 09-Nov-1994
dist.: 14-Nov-1994

DEELSA/ED/WD(94)34

Or. Fr.

THE CHANGING ROLE OF VOCATIONAL AND TECHNICAL EDUCATION AND TRAINING (VOTEC)

CONTEXT, ACTORS, CHALLENGES

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)

017591

FOR TECHNICAL REASONS, GRAPHS, TABLES & FACSIMILES ARE NOT AVAILABLE ON OLIS

BEST COPY AVAILABLE

CE070027

(Note by the Secretariat)

1. The attached report is part of a common effort of synthesis and analysis undertaken in the framework of the VOTEC activity. It is based on the Synthesis of Country Reports [DEELSA/ED/WD(94)33], and on other VOTEC documents.

2. The author of this report is Professor Claude Pair, Institut National Polytechnique de Lorraine, Nancy, France, former Recteur d'académie.

3. The attached report is presented, together with the Synthesis of Country Reports, as a background document to the high level conference on "Vocational Education and Training for the 21st Century - Opening Pathways and strengthening Professionalism", which takes place on 28 - 30 November 1994 at the OECD in Paris.

Summary

1. A short historical review underlines the diversity of education systems, and especially of vocational education and training, across OECD countries and highlights common trends in the context of technological and structural change, economic crisis and uncertainty. The report examines major transformations in vocational education and training, affecting its organisation, structures and pathways. These transformations are seen as resulting from the intervention and interaction of many different players, including students and their parents (whose educational choices may cause changes in educational structures); government at national, regional and local level; employers and trade unions; educational institutions and teachers.

2. Vocational education and training is currently facing two major challenges: reconciliating "education" and "training" and strengthening democracy in a context of social and economic differentiation. A number of possible strategies are examined:

-- conceiving education and training as part of one unified system of lifelong learning;

-- organising educational pathways with multi-level exit points;

-- addressing problems of flows inside educational systems and between education and employment in "realistic" ways;

-- responding to social and economic developments through innovation in curricula and certification;

-- improving partnership and co-operation and avoiding to destabilise existing formal systems.

3. "This analysis suggests the priorities that should be set: to maintain a level of knowledge adapted to the modern world; to promote shared values and a culture which will enable people to live and act together; to avoid education with several tracks. VOTEC can play a role in helping to attain these three objectives. This is clearly true for the first objective, but the low status of VOTEC would have to be raised. For the last objective, VOTEC allows for other kinds of success besides general education, provided that it does not develop along elitist lines. Finally, even outside the world of work, an occupation is a facet of personal identity that enables people to relate to each other and to recognise the role each one of them plays in society. For this to be possible, more than ever general and vocational education must not be separated" (para 109).

Table of contents

		Page
I.	**Introduction**	5
II.	**Historical overview**	7
III.	**A legacy of history: different training systems**	9
IV.	**The scientific, technical and economic context**	11
V.	**The actors**	12
	Economic demand	12
	Social demand	13
	The role of unions	13
	The decision of the public authorities	14
	The role of teachers	14
	From convergence to divergence to uncertainty	15
VI.	**Meeting the challenges: some orientations**	16
	Thinking of the education and training system as a whole, in the framework of continuing education	17
	Designing pathways as multi-level streams	18
	Treating the problem of intake realistically	21
	The impact on content and certification of training	23
	Improving partnerships instead of changing existing formal systems	24
VII.	**The challenge of the future**	27
	Notes	28

I. Introduction

1. In the framework of the OECD's VOTEC project, each Member country was asked to prepare an analytical report on the changes taking place in its technical education and vocational training system. A synthesis report was then drafted by Olivier Bertrand and the Secretariat. The present paper is an analysis which is based on this synthesis, as well as on a number of reports I have read, on meetings with the representatives of Member countries, in particular at the Marseilles seminar on "Apprenticeship, 'Alternance' and Dual System: Dead Ends or Highways to the Future?" and on my own personal experience as a French educator who has held positions of responsibility at the national and regional levels[1].

2. In English the acronym VOTEC stands for vocational and technical education and training, which translates into French as *l'enseignement technique et la formation professionnelle*, which is not quite the same thing. However, whatever the syntax used, each of these four words raises a number of problems. Moreover, in the view of some specialists "there is no general phenomenon that can be labelled vocational education"[2].

3. The problem is not entirely due to the ambiguities of the French word *enseignement* (teaching), which underscores the teacher's role as the dispenser of knowledge rather than as an educator, especially at the expense of the pupil's *apprentissage* (learning), a word which in turn does not refer to the status and method of vocational training known in English as "apprenticeship". The English term "education" makes matters much clearer.

4. But do we really want to make a distinction between education (*enseignement*) and training (*formation*)? Are their ultimate aims really different, with "education" aimed at personal development and "training" oriented towards an occupation or work station? In French we also speak of personal training (*formation personnelle*), training in citizenship (*formation du citoyen*) and general training (*formation générale*), terms which do not refer to occupations and are not limited to an individual's role as a worker. Furthermore, the boundary between education and vocational training (*formation professionnelle*) is increasingly less clear-cut because of the transverse skills that today's jobs require. The answer is certainly that these two aims must be reconciled. Is the distinction made between them based on differences of organisation, of institutional responsibility or of ministerial supervision (e.g. by the ministry of education or the ministry of labour) and ultimately of power, with "education" being carried out in schools while "training" takes place in enterprises or in specialised centres? If there really are two distinct concepts, the boundary between them is far from clear. Or do they refer to two different stages of life, with "education" starting at the beginning of life, or even being limited to the period of compulsory schooling, with "training" taking over thereafter? In this case it would no doubt be clearer to distinguish between initial training (*formation initiale*) before taking up a job and continuing training (*formation continue*) subsequently. In fact, continuing training is a relatively recent concept created in response to the rapid change in both technology and the organisation of work. However, in many countries, the two concepts are increasingly separated by the "gap" of entry into working life. It would be preferable to think of the entire process as the different phases in a single lifelong process of training or education.

5. As to the distinction between technical (or technological) training and vocational training, the actual distinction is often one of academic and hierarchical level; the training given to skilled workers is referred to as vocational, while courses at a higher level, in particular for technical specialists, are designated technological. There is also a linguistic difference which no doubt reflects differing social concepts; the French term *formation professionnelle* is translated into English as vocational training, while the English term professional tends to denote the professions or engineering. On the socio-occupational scale, technical specialists are situated somewhere in between the two. This extremely heterogeneous category appeared during the period of economic growth which followed the second world war, and the boundary between skilled workers and management was never clearly defined. And the distinction is less clear-cut than ever in the new types of organisation of enterprises, since the skills expected of workers are increasingly similar to those of technical specialists. The latter's training is generally more academic than that of skilled workers, and it is no doubt for this reason that the OECD project's French title only couples the adjective *technique* with the noun *enseignement*. The word *technologique*[3] refers to academic training organised around technological disciplines such as mechanical engineering or electricity, and not directed towards a specific trade, such as lathe operator or electrical fitter. In France and Italy, for example, a distinction is made between secondary schools which have technological and vocational streams, although this distinction is far being from universal.

6. To cover the full range of possibilities, it is no doubt preferable to use VOTEC as a generic term without analysing it too closely, and to agree that we will study those streams at the level of secondary or higher education which lead to jobs as skilled workers or technical specialists.

7. Nevertheless, the semantic subtleties we just mentioned do have the merit of raising some difficult basic questions:

-- How can education and training be reconciled in VOTEC, that is, the individual, social and economic aims, in a perspective of continuing education? Are the issues of organisation and power in VOTEC essential aspects of this question?

-- In a democratic society, how is it possible to ensure a balanced distribution of individuals between socially unequal functions? Should the educational system contribute to this? What is the role of the structure and content of VOTEC in this regard?

8. There are some major contradictions underlying these questions, and it has only been through the interplay of a number of actors that solutions have been found. It is this process that has led to the changes in VOTEC and to its changing role. These actors are the same in all countries: employers, trade unions, the national, regional and local public authorities, and training bodies, but also young people and their families as well as teachers. They act against an economic background, and a scientific, technical and ideological background, which is becoming increasingly similar, at least in the OECD Member countries. But the historical development of each country has led to different outcomes and has resulted in the differing organisation of each one's VOTEC system. Nevertheless, the problems are largely the same and the possible solutions share many common features.

9. In this paper we shall review successively the historical development of VOTEC systems, their diversity, context and the actors involved. We shall then suggest some orientations for meeting the challenges facing VOTEC. We shall conclude by asking whether the problems of high unemployment that all the Member countries are either facing now or have faced in the recent past mean that VOTEC has taken on a truly new role.

10. The difficulty that one faces in a study of this kind is that very few statements can be made which are completely valid at all times in all of the Member countries, which means qualifying everything one says with "in general", "most often" or "in most cases", which I have occasionally failed to do. I have also no doubt been influenced by what I know best.

II. Historical overview

11. Prior to the period we wish to study, in traditional societies in which knowledge was fairly static and society's evolution slow, training took place informally, "on the job" by practising a trade, often from childhood and in the family. This applied, in particular, to farming and shopkeeping.

12. In the craft trades the notion of the master and journeyman emerged more clearly. The apprentices acquired their trade by watching the master at work (or "stealing the trade" as has sometimes been said). They took an active part in the work and were given advice as they did so. The link between master and apprentice could be formalised by a contract setting out their respective obligations.

13. With the appearance of industrial enterprises there emerged a rigid, hierarchical, mechanised organisation of work in which little information was passed on to workers. A parallel may be drawn in passing with the dominant e of the industrial revolution, i.e. physics, which explains the world in mechanistic terms and views matter as hierarchical and undifferentiated. The era of mass production, with standardised forms of production and consumption, was made possible by the "scientific" organisation of work, i.e. Taylorism and Fordism. Its effective implementation required only minimum general education on the part of the workforce; reading, writing and arithmetic. The schools had the task of providing this basic education while the very limited vocational training which was needed could soon be acquired on the job.

14. Supervisory staff were few and split into two groups. On the one hand were the foremen, who came from the ranks of workers and were set apart by their experience, authority and close integration into the system. On the other hand were the engineers, who came from a different social background. They had received a higher education, admittedly technical but conferring a different type of authority on them through distinctive cultural features.

15. At the same time a predominantly administrative and commercial tertiary sector gradually developed. Organisation here was less rigid, while still being influenced by the division of labour and Taylorism. The necessary training was also of a general nature but slightly higher than in the case of manual workers, so justifying a difference in hierarchy between "white collar" and "blue collar" workers. The techniques were fairly rudimentary and distinct from each other, consisting of shorthand, typing and book-keeping. However, they were taught in specialised courses.

16. The professions rounded off this portrait of society during the nineteenth and early twentieth centuries. Their organisation resembled that of the craft trades, but the education of their members was completely different, being of university level.

17. Society was in fact split into a small and largely hereditary elite (company directors, engineers, members of the professions), and a mass of small farmers, manual workers, office workers and shopkeepers. The education system reflected this dichotomy, with two types of education whose boundaries were hard to cross; primary school for the masses with a few extended courses to train office workers and civil servants, and secondary school for the elite.

18. The period which followed the second world war led to a very different situation. The needs of reconstruction, urban development, demographic growth and the increasingly global nature of problems and of people's awareness, technological evolution towards computer systems, and electronic or physical communications all resulted in an unprecedented growth in world production and trade.

19. From the point of view of social organisations, the first consequence was an increase in the size and complexity of enterprises, made possible by the easier and more economical transmission of information. Craft trades declined, Taylorism was reinforced, but at the same time the hierarchical pyramid became smaller. Employment became diversified and new kinds of employment made their appearance, half way between executive staff and shop floor workers -- technical specialists, sales technicians, etc. At the same time, the role of the State became more pronounced with an increasingly complex civil service.

20. The demand for labour thus not only increased, but also became more varied. Enterprises wanted to have at their disposal a reserve of trained labour which would permit growth and flexibility, whereas the relationship between training and employment was becoming more complex and forecasting became more difficult.

21. Economic growth and job diversification came to permit an unprecedented degree of social mobility. The development of information and communications made this mobility desirable to people and they now sought to plan their careers more carefully. The employment of women grew, but their jobs were less varied than those of men and were concentrated essentially in the tertiary sector.

22. The concept of productivity spread. The economic theory of human capital and its derivatives resulted in a growing awareness that vocational training is not just a private matter, that it holds the key to the future of our countries, and that the public authorities cannot afford to disregard it.

23. All these factors resulted in a demand for education, rising numbers of pupils and students, and greater variety in the education systems. In many countries, vocational training acquired an institutional basis and diversified. It acquired the status of a specific activity, either as a new function identified as such in enterprises or as something provided outside by specialist bodies. In addition, it was no longer confined to the period

immediately following recruitment since the rapid development of products, manufacturing techniques and skills provided an incentive for training to become permanent, lasting all through a person's working life. The problem of how people could find their way in this educational and vocational world, with a rapidly growing range of opportunities, also became increasingly acute.

24. With the economic crisis which followed the period of growth, competition between enterprises and nations increased, and unemployment became a major problem in many countries. The organisation of business and the civil service and the role of States are being rethought because people are beginning to realise that increasing complexity is playing its part in the crisis and that employment is created mainly by small enterprises. Once again, progress in the transmission of information is playing a decisive role. There is in fact no longer any reason to accord pride of place to a hierarchical organisation as the most economical method for the transmission of information, given its lack of flexibility in other respects. It is becoming possible to go over to forms of organisation that are more adaptive because they involve closer personal participation and in which the objectives are set at a higher level and the lower level is left to decide how best to attain them, subject to evaluation. This trend is making business organisation still more remote from the Taylorian model.

25. Although all countries have gone through the four preceding stages, the transition from one period to the next did not occur at the same time, and depending on the country the periods were longer, shorter or overlapped. In the first period, for example, the importance of craft trades or shopkeeping in relation to agriculture varied widely. This helps to explain the degree to which the concept of crafts or trades has persisted in industrial enterprises, which have to varying degrees conserved the features of the organisation of traditional society. The period of transition from an essentially agricultural or craft trade economy to modern industry came much later in some countries than in others, in some cases only during the period of post-war growth, so that their reliance on Taylorian principles of organisation has also varied.

26. All of these factors, in addition to the specific characteristics of national cultures and differing demographic trends following different patterns over time, have led to very different VOTEC systems. Furthermore, these systems not only differ from one country to the next, but even in the same country to satisfy different needs.

III. A legacy of history: different training systems

27. In traditional societies, training and work are inseparable; after a a certain amount of general training, individuals go to work and receive "one-the-job" training; in such cases, VOTEC is informal.

28. Training in craft trades leads to a first type of formal training as regards the status of the apprentice, the training obligations and the duration of the contract. Initially these were a private matter between individuals, but gradually the public authorities became involved in regulating the relationship and in determining the content of training, especially by

requiring courses outside the enterprise, some of which would allow workers to continue their general education. As a result, the enterprise no longer had sole responsibility for training but shared it with outside bodies. Present apprenticeship systems, such as the dual system in German-speaking countries, are the outcome of these developments.

29. In effect, in countries where the tradition of craft trades was sufficiently strong to resist the de-skilling caused by Taylorism, apprenticeship was adopted by industrial enterprises, which tended to remove it from its informal origins. Elsewhere, informal on-the-job training became the rule in most large enterprises without giving rise to a real tradition of training.

30. The contradictory trends of the period of economic growth -- the demand for a more adaptable workforce, growing de-skilling of workers in some sectors and diversification of jobs in others -- affected countries in different ways. This depended on their industrial strength and when their industrialisation had begun, that is, whether they already were industrial powers, but also on their national traditions and the role played by government. Older industrial countries such as the United Kingdom and the United States did not call into question their tradition of informal training, but the level of general education before hiring rose significantly, especially in the United States. The other English-speaking countries followed a similar pattern, as did Japan, although -- or rather because -- its growth had come later and had been more rapid. In the United Kingdom, apprenticeship began to decline and then diminished still further due to economic difficulties. The countries of continental Europe already had a relatively strong industrial tradition, but had to reconstruct after the war. In those countries in which apprenticeship was not usual in industry, governments relied on the school system where vocational and technological streams were introduced.

31. The economic crisis ushered in a period of uncertainty and reappraisal. In the 1980s, many countries set up specific enterprise-based schemes in response to the urgent problem of the growing ranks of unemployed young people. An example of this is the British Youth Training Scheme, introduced in a country where there was no clear-cut vocational training system as a first step towards creating one. The other English-speaking countries also began to rethink their position. There was also a major reassessment in countries having a predominantly school-based VOTEC system, and to a much lesser extent in countries with the dual system.

32. Today, the variety of VOTEC systems makes it difficult to establish a typology. One can, based on the preceding analysis, suggest classifying them from three standpoints:

-- the proximity of training and employment, which can be combined (as in an informal system) or be partially or completely separated;

-- the role of general education, which can precede any vocational training or be simultaneous with it and be given greater or lesser importance; the most widespread trend is toward a growing emphasis on general education;

-- responsibility for training, which can reside with enterprises, be shared (as in the dual system), be delegated to inter-company or autonomous centres, or else be assumed by the school system either in well-defined vocational streams or as modules added to a course of general secondary education. The latter situation is found in the English-speaking countries, where technological options taken in conjunction with general streams are sometimes a prerequisite to informal vocational training, which takes into account the importance of general education for occupations in today's world.

33. Furthermore, as we have already mentioned, a number of systems can coexist within one and the same country, which allows for flexibility so that young people can successively go through several of these systems. Nevertheless, the fact remains that as a general rule each country has one system which takes precedence over the others, such as full-time vocational training in Germany and Japan or apprenticeships in France. The other less prominent systems meet specific needs and may help to remedy the shortcomings of the main system.

IV. The scientific, technical and economic context

34. During the period of economic growth and then during the crisis which has followed, we have gone from a society based on energy to a society of information and communication. At the time of the industrial revolution, the dominant sciences were physics and, as an offshoot of technology, mechanics. These are the sciences of the material world. During the period of growth, however, biology developed and, as an offshoot of computer technology, data processing, a science based on information and models.

35. Technical developments, together with developments in science and the progress of ideas, have had a considerable impact on the organisation of work and on employment. Automation has led to a reduction of the manpower needed to achieve a given level of production, with the reduction, or total elimination, of repetitive routine tasks. The role of people has changed; they are no longer asked merely to apply rules, but to respond to the unforeseen. The tertiary sector has developed, now that automation leaves time enough for this purpose. The ease of communication has changed the international division of labour and has made the economy increasingly global, since the location of economic activities is no longer tied to the proximity of raw materials or energy but to a much greater extent to the availability, cost and training of the workforce. To become more competitive, companies rely on innovation and flexibility; business organisation is being changed to introduce a smaller hierarchical pyramid, decentralised decision-making and greater responsibility at the implementation levels.

36. These profound changes inevitably call for new aptitudes on the part of workers: a critical mind and a sense of responsibility at every level, independence in space and time, ability to use knowledge to solve problems, transition from the concrete to the abstract and vice versa, symbolisation and use of different types of language, reasoning, ability to communicate and work in a team, creativity, etc. Today, everyone is expected to possess these

skills which used to be the privilege of senior management, and those who do not may well find themselves excluded from the job market. The tasks of operative workers are becoming more professional in the English sense of the word rather than merely vocational. Above all, the key word is adaptability in reacting to unforeseen events in daily work or in the ability to cope with technical and organisational change.

V. The actors

37. All of the factors which precede have led to changes in VOTEC. However, it would be an over-simplification to view these changes as affecting only its organisation, structures and the pathways it offers. In many cases, the changes in school enrolment have had an even greater impact, and although they can be a result of structural change, they can also be one of its causes. These changes are bound up with the guidance of pupils towards the pathways open to them and it would be interesting to know more about how this process takes place in the various countries.

38. Consequently, the actors whose decisions and opinions have an impact are not only the national, regional or local public authorities, employers, trade unions and training bodies, but also young people and their families, as well as teachers, who play an important role in the guidance of their pupils.

39. An explanation of recent VOTEC trends should therefore be sought by comparing the expectations of the business world, the aspirations of young people and their families, the intentions of the public authorities and the corresponding changes in the educational system, and the reactions of the educational system itself, especially the reaction of teachers.

Economic demand

40. During the period of growth, economic demand diversified, and everyone received a lower secondary education, while a segment of pupils studying to become mid-level managers received increased vocational training. However, at the same time employers' manpower needs were such that they were satisfied with a poorly trained workforce in a Taylorian organisation of work, as they feared that better trained workers would not fit in well with this kind of organisation.

41. With the economic crisis, increased competition world-wide, the resulting reorganisation of enterprises and uncertainty over the future, the vast majority of employers now say they need young people with a higher level of training. They expect all workers to be able to take responsibility and to be adaptable. Nor are these merely empty words; most often, the labour market indicators all show that wages, working conditions and hierarchical position in the enterprise, the unemployment rate, and means of access to employment all point in the same direction, towards a preference for candidates with higher levels of training. On the other hand, the situation of young people without skills is becoming increasingly difficult as unemployment grows.

42. However, the precise kind of training that is desired is far from clear. What employers say they need falls into two categories: on the one hand, they emphasise the transverse skills of reasoning, ability to communicate, independence, ability to take responsibility and to work as part of a team, adaptability, creativity and even ethical standards, which are no doubt fostered by a general education; on the other hand, they wish to attract young people to vocational training, especially in the industrial sector, which can be of greater immediate use to the enterprise. This dichotomy can be interpreted as the outcome of the demand for similar general skills for all levels of staff, even though enterprises are very diverse and their organisation, although it has changed, still remains quite hierarchical. This explains why employers encourage a higher level of vocational training, but which is still oriented towards preparing pupils for jobs as skilled workers. However, in many countries, the real conditions of hiring favour candidates with a higher level of general education over those with vocational skills, especially in the service sector. A further difficulty is that business spokesmen are all too often the representatives of large enterprises, which are not doing most of the hiring.

Social Demand

43. Young people and their families expect training to lead to a satisfactory career. By "satisfactory", it should be understood a career leading to upward social mobility -- this expectation, which arose in the period of economic growth, is still strong -- but also increasingly one which is sheltered from the threat of unemployment.

44. Today there is much fuller and more widely available information about careers than was previously the case, and it is less dependent on proximity. The signals from the labour market encourage young people to prolong their initial training. There is admittedly a possible alternative, which is to begin working earlier with the intention of resuming training later. But this option seems unrealistic in many countries, especially when vocational training is primarily school-based and, in a time of high unemployment, there is little chance of finding a first job.

45. There is less of an incentive to enter a vocational stream, for it is less likely lead to higher levels and it forces pupils to specialise earlier. Uncertainty over the future and young people's general desire to keep as many options open as possible have reinforced this trend. The longer duration of schooling and better information have opened up further possibilities, but at the expense of vocational training.

The role of unions

46. Workers' organisations are at the crossroads of economic and social demand. This complex situation often places them in a delicate position. Young people's higher level of training can be a threat to existing workers, but it is also a real opportunity to make enterprises more competitive and to

improve working conditions. As a result, unions rarely speak with a single voice on these issues, especially in countries with many unions, where their position is defined in terms of their general philosophy and their role of representing the views of their membership. The situation is simpler for unions when, as in the German dual system, the young people being trained are already employees whom they represent. Even so, in other countries, unions are generally not very favourable to an apprenticeship system which they fear employers will dominate. But in all cases unions are concerned that the skills acquired through training be recognised at the national level.

The decisions of the public authorities

47. Whether they are making decisions at the national, regional or local level, the public authorities take into account both economic and social demand. From the economic standpoint, they generally express the conviction that human resources are the primary resource of developed countries and that they hold the key to the growth which is necessary to solve the problem of employment. As a result, the public authorities strongly promote education. It must be said that longer schooling has an immediate positive effect on unemployment statistics. Furthermore, the public authorities are often concerned with making education more democratic, even though this consideration sometimes comes second to economic needs.

48. The public authorities particularly wish to develop technical education and vocational training, especially in the industrial sector. Their goal is simultaneously to improve technical skills within the country, as enterprises request, to combat unemployment among young people and to help those pupils who are having difficulty in school to succeed, since they are the ones most likely not to acquire any skills. However, these aims are in contradiction with the goal of raising the level of training since technological and especially vocational training lead to the lowest levels of skills.

The role of teachers

49. Although teachers are a highly diverse group, we can say that on average they are less concerned about economic demand and the need to prepare pupils for an occupation. In their view, their primary role is to impart a general education, to foster the pupil's personal development and to form good citizens. These attitudes are naturally more characteristic of teachers in general streams, but they play an important role in the guidance these teachers give to their pupils.

50. However, teachers' concern with the intellectual and personal development of young people is sometimes in contradiction with their behaviour when the problems encountered or their concept of the requirements of their teaching lead them to try to shed their worst pupils, who either transfer to another type of school or enter "working life", i.e., either find a job or unfortunately all too often join the ranks of the unemployed. On the other hand, whenever possible, they naturally prefer that the best pupils continue to study at their school.

51. These two attitudes naturally lead to a hierarchy of training, which favours the longer and more general training options. Since teachers play an important role through the perceptions they instil in their pupils and the advice they give them, this hierarchy is deeply rooted. It is all the stronger when it is reinforced by the information coming from the labour market.

From convergence to divergence to uncertainty

52. In the 1980s, there was a rare convergence between economic demand, which favoured a higher general level of training to overcome the crisis, and the demand of young people and their families, who desired social mobility and saw that job opportunities and initial working conditions improved with the level of training. This convergence delighted education officials and teachers, who attached great value to education's role in social integration and the promotion of the individual. As a result the public authorities encouraged this trend not only in words but also by their deeds. This general consensus quickly produced results, and everywhere there was a massive increase in the duration of schooling.

53. But the convergence did not extend to the streams to be emphasised. The ambivalent position of employers did not make it possible for the public authorities' efforts to overcome the traditional image of vocational training's low status in the opinion of teachers and the public. It is legitimate to make one of the goals of vocational training not only to help pupils in difficulty to succeed in school but also to promote their social advancement, but this does not enhance the image of such training. This no doubt explains why the development of vocational training in the strict sense (the training of skilled workers) has been a relative failure in many countries while the streams leading more directly to higher education have continued to grow.

54. Nevertheless, vocational streams make it possible to train young people who formerly would have gone through the educational system without acquiring skills; the population of these streams has changed, and a portion of their previous population is now enrolled in general or technological education. Consequently, they play an essential role in building up school enrolments. The students from a modest background are the ones most easily persuaded to take up vocational and technological studies, which make it possible for them to stay in school and sometimes to enter higher education; however, the social barriers, even if they have been partially broken down, have not been eliminated. They have taken a different form, namely, the hierarchy of the various streams.

55. A second divergence can have an impact on the role of industrial training, in which enrolments have often been dropping sharply. Admittedly, the share of jobs in the industrial sector has declined even as the service sector has continued to grow, but the choice of young people has been even more marked. But vocational training, which has traditionally focused on industrial training, has had difficulty in defining effective training in the service sector, where the candidates hired have a general education, most often of fairly advanced level. The problem is particularly serious for young women, who are reluctant to enrol in industrial training courses and concentrate on a small number of occupations.

56. Today, however, it would seem that in many countries the social consensus is unable to cope with the continuing crisis and rising unemployment. The fact of the matter is that the notion of raising the standard of training is too vague to satisfy the demands of the economy, so that we find here and there an unsatisfied demand for labour co-existing with high unemployment, especially when demography is declining. Social mobility is insufficient to satisfy the growing number of graduates, especially as it is hampered by the crisis. Finally, the exclusion of the unskilled becomes more serious when their number diminishes. Many of them are young people who have failed in their general training and who often come from deprived backgrounds.

57. In fact, we are witnessing an ambiguous process of change. It is making work less strenuous and requires greater personal initiative and responsibility; the "human resource" is regarded as more precious than before. However, at the same time it is casting doubt on the role of work, which is coming to play a very minor role in human life, and badly distributed at that.

58. The transformation of employment, both quantitatively and qualitatively, is far from complete. It remains poorly understood in the various occupational sectors[4], beyond a few generalities such as those in section 4 above, and it is therefore all the more difficult to draw conclusions as regards education.

59. These developments can be summed up by saying that we have gone from a stable world which did not make very many demands on training in the formal sense of the term to growth, interaction and complexity, and then to a world where uncertainty reigns supreme.

60. However, action in an uncertain world is a particularly delicate matter when it comes to training, especially vocational training with its precise objectives. Training is in fact slow to define and implement; the time taken may be as much as ten years. What is more, it prepares people for a career which will stretch over several decades. Training must therefore make it possible to reconcile two goals which appear contradictory at first sight, i.e. suitability for jobs of the kind which exist at present, and future adaptability in a situation in which enterprises and jobs will both be undergoing rapid change.

VI. Meeting the challenges: some orientations

61. In the introduction, we indicated two challenges facing VOTEC:

- -- reconciling education and training, that is to say individual, social and economic aims;
- -- ensuring, within a democratic society, a balanced distribution of persons among socially unequal functions.

62. These two challenges were linked to questions of organisation and power in VOTEC, as well as to questions of the structure and content of training.

63. It should be added that these challenges have to be tackled within a context that is one of change and uncertainty, which calls for adaptability not only on the part of the persons trained and throughout the course of their career but also on the part of the training system itself. Unfortunately, the system's historical roots and the wide variety of actors concerned make any change long and difficult. This does not mean that change is not possible, for there has been ample evidence to the contrary in recent years. What it does mean is that speeches, laws and government decrees are not enough, that the history and motivations of the actors must be analysed, and that education must be thought of in the long term, while political leaders tend to focus on the short term.

Thinking of the education and training system as a whole, in the framework of continuing education

64. Tackling the first of these challenges means acknowledging the fact that acquiring a skill forms part of the process of building a person's identity and that economic requirements need to be taken into account throughout the entire process of education but that, on the other hand, these requirements cannot be pursued in isolation without any concern to turn out well-rounded and fulfilled persons.

65. Furthermore, there is a convergence between this awareness and the disappearance of Taylorian organisation, with the result that personal and social skills of the kind referred to in section 4 are becoming basic job skills required of everyone. In particular, adaptability no longer means that workers must adapt to de-skilling and to a rigid organisation which does not allow them think for themselves. Instead it has come to mean that the mastery of vocational know-how must go hand in hand with a broad development of people's minds. Since this need for adaptability is, we should remember, relatively new to the vast majority of workers, the first response should be to reinforce general education, which must be rethought with a view to instilling the transverse skills today's jobs require, and which must be more closely linked to vocational training.

66. All this argues in favour of not separating general education and vocational training into watertight compartments and, as far as possible, of pursuing general education during vocational training. If they are undertaken successively, as in informal training, this will aim at achieving the goals that we have just mentioned by completing a basic general education and delaying vocational training considerably, until the secondary education is completed. This is essentially what is done in the United States and Japan. However, this arrangement, which seems to follow the historical trend, comes up against a number of difficulties. It can result in the vocation dimension of general education being forgotten or disregarded; it raises the problem of the integration of general and occupational skills; it is an obstacle to training for all, particularly for those from modest social backgrounds; and it places individuals who find it hard to acquire academic skills at a disadvantage. There are even cases in which vocational training may actually promote general and even literacy training. These are ideas advanced by the sciences of education on the building up of knowledge through action.

67. The second response to the need for adaptability resides in continuing training, lasting throughout a career. One of the goals of initial training is to encourage this possibility by "teaching the individual to learn". What is needed is to think out in a comprehensive way what life-long training could consist of in a continuum between initial training and continuing training.

68. We then arrive at an arrangement consisting of:

-- a basic general education including a technological component enabling pupils to be given a technical culture;

-- a period of a few years in which vocational and general training are associated, with the one motivating and supporting the other;

-- continuing training adapted to the needs of both the enterprise and the individual.

69. It is certainly easier to implement this recommendation in a system consisting mainly of education establishments rather than in a system which falls under the responsibility of enterprises, and more readily in an education system in which the vocational streams are clearly demarcated, so that it is possible to link general education successfully with vocational training. The most widespread tendency today is to prepare for a family of trades rather than one specific trade so as to promote adaptability. However, training may also be provided for a specialised occupation provided that, starting from this vocational core, the horizon can be broadened to neighbouring careers and transverse and transferable skills. This teaching technique may facilitate the success of young people who are experiencing difficulty with their general education.

Designing pathways as multi-level streams

70. The framework just presented has not addressed the question of when initial vocational training should be added to the basic general education, and whether this should occur at the same time for all pupils and how they have access to the different levels of qualification and employment (unskilled personnel, skilled workers, technicians, higher technicians, managers).

71. This leads us to the second challenge, which is bound up with the hierarchical organisation of work and by extension with social position. In the bipolar society of the early twentieth century, this was largely determined by family background; primary education was intended for the mass of workers, and secondary and higher education was for future managers. This scheme was the point of departure for the transformation which, during the period of growth, opened up secondary education to all and made the pupils' performance there the basis of selection for what had become a broad range of occupational and social positions. This was a "meritocracy" based on academic success, but which we now know has a high correlation with pupils' social background. Most often, it is the length of the general education which is the distinguishing feature in their education. Vocational training comes later and becomes

shorter the higher people rise in the hierarchy. In secondary education there are generally, beginning at an age which varies across countries, streams which lead directly to higher education, and streams which are less likely to lead there or which instead lead directly to entry into working life.

72. In this way a system of "fractional distillation" (Figure 1) has been built which inevitably results in the devaluing of vocational training in relation to general education since, at each branch, it leads to lower positions than could be hoped for if one continued with general education. What is more, continuing training will tend to be reserved for persons who already have a better level of employment.

73. This situation cannot be improved unless two pitfalls for educational systems are taken into account:

-- Premature segregation of pupils, for example between the streams which lead on to university education and those leading to manual or office jobs. This increases the disparities observed at the outset and proves disadvantageous to slow learners, particularly those from modest social backgrounds. It amounts to an instrument for the reproduction of the existing social hierarchy, which may perhaps avoid conflicts and frustration but does not make the best possible use of talent.

-- Identical education for all; since this denies the existence of differences, it is unable to make the best use of different motivations. That may cause the same pupils to fail as in a segregative system, and perhaps cause them to fail more badly. It may also jeopardise the quality of training.

74. Each country must steer a course between these two pitfalls, having regard to its own history and the ability of the teachers to get heterogeneous groups to work successfully. There are grounds for thinking that historical trends and social demand will lead to the separation of pupils being delayed, for example until the end of compulsory schooling, and then lead to the avoidance of dead-end streams, through the establishment of bridges or modular systems.

75. One solution is to set up real vocational streams which may be entered, and above all left, at different levels to return to the context of continuing training: "Let every soldier have a field marshal's baton in his knapsack", as Napoleon Bonaparte put it (Figure 2).

76. In France, a significant number of young people, after completing a diploma at the level of skilled worker, prepare a technological or vocational *baccalauréat*. Many of them then study to become a higher technician. Some of these pupils later go on to university, and a few of them are ultimately accepted into an engineering school, either immediately or after several years of work experience. However, it must be recognised that young people who take this pathway face many more pitfalls than the most successful *lycée* pupils who prepare to enter directly into an engineering school. It is generally thought of as a pathway that gives pupils a second chance.

Figure 1

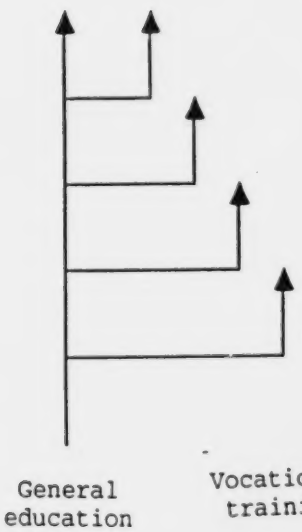
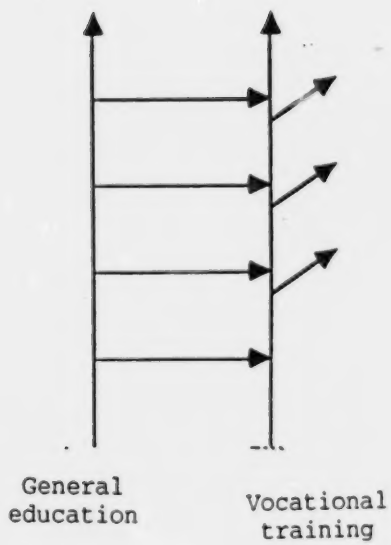


Figure 2



Treating the problem of intake realistically

77. The structure of streams is only an initial aspect of the discussion of the challenge posed by the hierarchical organisation of education and training. It is necessary to know how many young people, and which ones, choose each pathway and how it is possible to ensure that their choices match the needs of the economy.

78. The fact is that, when presented in this way, the problem of regulating intake is insoluble. Quantitative forecasting is difficult if not impossible, even in the short term. Examples abound of a rapid turnaround in the short-term situation of certain occupational sectors. Even if it were possible to predict the way in which job opportunities will develop, it would still be necessary to know whether these jobs will be open to young people, to the unemployed or to persons already present on the labour market. On the labour market overall, young people are very much in the minority when it comes to recruitment.

79. Today we know that the relationship between training and employment cannot be seen as a supplier-client relationship. It is far more a question of a mutual interaction, with the organisation of work depending on the persons who might be recruited. For example, Taylorism responded to the need to harness masses of often illiterate peasants to industrial work. The end of Taylorism was attributable, among other factors, to its incompatibility with the psychology of better-trained workers.

80. Given all these considerations, no-one believes any longer in models designed to determine accurately how many persons needed to be trained in each occupational sector in five years' time. Nevertheless, regulation by market forces alone is not feasible either, given the fact that lead times are so long for education and training.

81. Formerly, this problem did not exist. There was little social mobility, jobs changed slowly and the educational system had very little impact on the fate of individuals. Information was limited and highly localised, and most people were resigned to reproducing the existing social hierarchy, at least in the short term. During the period of growth this situation changed at a pace which varied across countries, but with the coming of the economic crisis the problem of intake became dramatic.

82. In a democratic country, an authoritarian mode of guidance of young people based on state planning is out of the question, and would in any case be impossible to implement. Today, the interplay of actors and especially the functioning of the labour market encourage longer schooling, and particularly longer general education. If leaving school or entering a vocational stream is likely to lead to lower wages, more strenuous and less interesting work, a less promising future and a higher risk of unemployment than if one continues general studies, is there a genuine choice? However, this increase in the length of schooling, which was necessary and had positive economic and social effects, today seems to have reached its limits. We find ourselves in a

vicious circle, for the prolongation of general education means that the best pupils remain in school longer, which encourages employers to give priority to this criterion when hiring, which in turn encourages young people to remain in school even longer.

83. Should the educational system try to cope with this problem by itself, and how can it do so? Certainly not by limiting or slanting the information given to young people and their families at the time of guidance. Increasing the cost of studies is not compatible with a number of countries' traditions and would bring the democratisation of education to a halt. The remaining possibility would be to raise academic barriers, by introducing stricter selection of those able to continue their studies. But since this too will make schools less democratic, is it compatible with the education system's mission (see our first challenge) and acceptable to society? Furthermore, is it really efficient for the economy itself, which in the current situation of competition needs the "best people", since it is by no means certain that they will be the ones selected by a stricter academic system?

84. It would seem that a large part of the solution lies with enterprises[5]: on the one hand they should review their criteria for hiring, and on the other hand they should make operatives' jobs more attractive while at the same time being more demanding. In other words, they should draw the logical conclusions of the changes in employment and the organisation of enterprises and begin rethinking occupational hierarchies in all their forms.

85. It will be the responsibility of the public authorities and training agencies to make sure that young people and their families are properly informed about the prospects afforded by the different training courses and streams. However, the longer the training is, the more difficult it becomes to provide information since decisions on the courses to follow have no immediate effect in terms of employment opportunities. It is therefore reasonable to suppose that market forces operate more effectively for enterprise-based training systems, such as apprenticeships, since enterprises regulate access to training in accordance with their policy for the renewal and development of the workforce. In addition, once young people have joined a company they are almost as favourably placed to stay there as their more senior counterparts. These training systems are therefore relatively more favourable to the employment of young people -- a fact which seems to be confirmed by the German dual system.

86. However, companies must still be capable of predicting the future. The risk is that the trainee population may fluctuate with the economic cycle so that training goes by the board in a time of crisis and is hard to reintroduce thereafter. Is this not in fact what happened in the United Kingdom? Thus, when a system in which apprenticeship holds a prominent position exists at the same time as persistent economic difficulties, this leads to the collapse of vocational training. Another danger is that young people with social handicaps will be excluded from vocation training.

87. A school-based training system, on the other hand, is more sensitive to the demand of young people, which is known to it, than to the needs of the economy that are largely uncertain. It therefore runs a greater risk of being

out of phase with the employment market, training too many people to a level which is too high during periods of unemployment and not necessarily in the right sectors in a period of balance. However, it is less bound up with the economic cycle and may even play a temporary buffer role by extending the length of education in times when employment is scarce, especially if it comprises multi-level streams like those discussed earlier. This has happened in recent years but cannot continue indefinitely.

The impact on content and certification of training

88. Deciding on the content of training courses leading to the different trades or groups of trades is always difficult. Each company has its own ideas and the acquisition of a "corporate culture" has become important, but companies vary greatly. They are at widely differing stages of technological and structural modernisation and training may indeed have the value of bringing them skills which they do not already possess. In an uncertain world, it is important to encourage worker mobility. Professional organisations are supposed to make a survey of the needs of the enterprises which they represent, but they are often remote from them or only represent the viewpoint of the largest companies, which are not always those that recruit young people. In addition, not only the employers but also the employees must be allowed to express themselves -- and as we have seen, that is often still more difficult. However, their trade unions place great importance on allowing for mobility by ensuring that the content of training is transparent and comparable at different sites.

89. In a number of countries of Europe and North America, techniques for deciding on content (curricula, reference systems, syllabuses) have been developed. These techniques are based on an analysis of each trade or work station in terms of the tasks to be performed and the skills (knowledge, know-how, attitudes) which training should impart. Very real difficulties arise because enterprises are so varied, with the result that the trade or work station is in reality no more than an abstraction. In addition, the analysis is easiest for the Taylorian form of organisation which is now disappearing, and in a different context it runs the risk of leading to over-simplification, in particular by placing most emphasis on know-how. What is more, it is based on the existing situation and can hardly predict the future, except by extrapolating past trends and comparing the situations which exist in all the different enterprises. It runs the risk of sacrificing adaptability, or of seeking to impart it by adding unnecessary content "just in case".

90. Finally, it is difficult to design streams in this way with a number of exit levels where the objectives at each level are not just directly vocational, but also involve continuing with a broader education. Defining the content of these streams is complex and requires thought to be given to what is needed in order to pass from one level of qualification to the next. In some instances, especially in the craft trades and professions, the call is essentially for specialisation and more thorough knowledge. In modern industry, the need tends rather to be for a broadening of the occupational training so as to give access to posts of responsibility and supervisory, planning and decision-making functions which require greater self-reliance in

space and time. Some types of knowledge and specialised skills then become superfluous and may sometimes even be a barrier to learning. It is necessary to discover how to use them to extend one's skills. The situation becomes still more complicated in cases where training takes in at one and the same time specialists from a lower level, whose skills need to be broadened, and persons with general training who now need specialised knowledge.

91. To overcome these difficulties, it might be worth combining entry based on vocational objectives with entry based on the subjects taught. Some techniques are shared by a number of different areas of work such as mechanical engineering, electricity, management and data processing. Quite recently, they have given rise to academic disciplines known as the "artificial" sciences. Their aim is not to understand a given piece of data like the more traditional sciences but to find answers to problems by linking together hardware, intellectual and software components. Methodological aspects play a fundamental role. Their permanence over a period of time revolves around methods and the links between components, over and above technical developments, which leads them on to "systemic" approaches through functional analysis and to "black boxes". In this way, learning them can promote adaptability and provide a backbone for the vocational training streams. A series of training courses constructed round these disciplines to serve as the basis for later vocational specialisation may be termed technological education, but today there is no reason why it should be limited to training technicians.

92. It is clear that deciding on content is an activity which cannot be improvised and takes time -- a fact which is incompatible with the necessary flexibility of the training system. To carry out this task effectively, the employers' and employees' representatives must be assisted by instructors and curriculum specialists.

93. Decisions about content are linked with the certification of training and the recognition of qualifications. This confirms the need for discussion and agreement between employers, employees and instructors. The agreement must cover a significant geographic area, and an informal training system experiences difficulty on this point. The local level is insufficient, as indeed is the national level in some cases. That raises the issue of the mutual recognition of diplomas and qualifications by countries between which significant migratory movements exist.

Improving partnerships instead of changing existing formal systems

94. We must return to the issues of personnel and equipment. Vocational and technological teachers should have an in-depth knowledge of enterprises and keep this knowledge up-to-date over time. The equipment is expensive and technical progress soon makes it obsolete.

95. Training under the responsibility of enterprises offers a major advantage here since it enables instructors to be chosen from their own personnel and the enterprises' own equipment can be used. However, this advantage is perhaps less decisive than might appear at first sight. Teaching

is a profession which cannot be improvised. A good workman or a good engineer will not necessarily make a good teacher. Enterprises which use modern production equipment are not keen on making it available to their apprentices, especially when they use "just in time" production methods. They prefer to set up their own school on the company premises with its own equipment. Conversely, when training is given outside, the outside establishment is able to organise exchanges of personnel and equipment with enterprises. Ideally, this will involve exchanges in both directions, with the enterprise's staff contributing to the teaching given in the school, and the instructors from the school providing continued training for the enterprise's personnel. The school will occasionally make use of the enterprise's equipment but may also itself make available equipment which enterprises in the vicinity do not possess.

96. In fact, what emerges from this analysis of the problems confronting VOTEC is that as regards the primary responsibility for the system, there is no marked superiority between the school or the enterprise, even though it is clear that an informal system cannot promote either the integration of the two kinds of training, general and vocational, or the mobility of the persons who have been trained. The disputes over the organisational aspects are therefore secondary when measured against the fundamental issues. In any event, whenever we take a close look at the main system of training in any country, we find that it is intimately bound up with history and social behaviour and is therefore hard to export. In addition, the likelihood that a far-reaching change of approach will prove successful is small.

97. It is obviously out of the question for enterprises to ensure the totality of VOTEC, which should be thought of and if possible implemented as a whole. But it would be absurd and dangerous if they were in no way involved in VOTEC training. We have seen that training and employment cannot be considered as a supplier-client relationship. The organisation of work is changing and the new occupations that this implies are still being defined. However, training cannot be postponed and the type of young people that are trained will have an impact on how these occupations are defined. The only way out of this dilemma of whether occupations determine training or vice versa is to define them simultaneously, as Bertrand Schwartz has recommended for a number of years.

98. The key factor is to ensure a partnership between the various actors, an ongoing partnership which alone can replace the planning which has become impossible in our uncertain world. For this partnership to be effective, it must be arranged at various levels: nationally or internationally for the decisions about content and recognition of diplomas; nationally or at a lower level for action on student intake and for policy matters relating to the introduction of training. For that, we need a reliable information system. Lastly, implementation must be arranged locally, for which purpose it is imperative for the establishments to have sufficient freedom, limited only by the need for official recognition of diplomas.

99. One partnership tool is what is known in French as "*alternance*", in which pupils participate in a single training programme at two different sites, in a training establishment and an enterprise. In this case the partnership is built around the person being trained. It is a system that presents a number of advantages.

100. First of all, there are pedagogical benefits for the trainee, for alternance provides a diversity of learning situations. We know that all individuals do not learn in the same way, and also that different approaches can help individuals to integrate what they have learned provided that the different kinds of training are closely co-ordinated and not carried out in isolation. Furthermore, alternance fosters a process of contextualisation/ decontextualisation: by learning in a work context, pupils are able to apply their knowledge, but their ability to use what they have learned outside its specific context is one of the keys to skill transferability. Both of these aspects have their importance, and both take time to master and are complementary in ways which go beyond the traditional dichotomy between theory and practice.

101. Alternance must also introduce young people to employment. One of the main drawbacks of the lengthening of the period of academic training in recent years has been that it has cut off young people from the adult world. Never before in history has this kind of segregation existed, and it has created difficulties for society as a whole. As regards employment, it has made enterprises seem foreign to young people, a place where young people do not fit in naturally. When employers say that they have not been able to find anyone on the labour market, this often means that they have not found the candidates that they expected, either because the jobs were of such low status that they only attracted young people with educational or social handicaps, or because young people were disappointed by job and wage conditions that they felt did not correspond to their training, or because the young people were too different from the norms prevailing in the enterprise.

102. Alternance allows schools and enterprises to know each other better, which gives them the opportunity to devise occupations and training together, and to reconcile the short-term needs of enterprises with the long-term concerns of training establishments. However, this inventiveness, which must of necessity be locally based at first, must somehow gain the wider recognition which will give mobility to the individuals who have received this training.

103. Most of the arguments that we have just given in support of alternance only apply when alternance strikes a balance between the school and the enterprise in terms of the time spent at both sites and their respective responsibility for training. These conditions are rarely met, either in a traditional apprenticeship, where the enterprise plays the dominant role, or in a primarily school-based programme which includes some training sessions in an enterprise which does not sign work contracts with trainees or assess their training. Is it possible to continue to bring these two systems closer without encountering insurmountable problems of funding and of enterprises' capacity to take in trainees? The best example of such a balance today seems to be Denmark's schemes for training skilled workers.

104. Another condition for success is that enterprises' responsibility for training must not be limited to employers. It is only because the dual system is managed together by employers and unions, or more generally because of the German tradition of social consensus, that there is such broad support for a training system in which enterprises play a predominant role. In other countries with different traditions, alternance would only be accepted if there were an equal partnership between enterprises and the educational system in which unions also had a role to play.

VII. The challenge of the future

105. In conclusion, I would like to mention one last concern. We have largely based our analysis on historical development, which we divided into four periods, and on the trends which emerged during the period of growth and were disturbed by the economic crisis which began with the oil crises. What if we have now entered a fifth period?

106. Today most countries are suffering from a profound employment crisis due to the impact of automation, globalisation and an ideology of "rationalisation". There is reason to believe that this crisis is not merely cyclical and that it will not be solved by a lasting return to growth. Work has ceased to be a curse and is becoming a privilege instead. Unemployment has created a gulf between those who are able to participate fully in society and those who are excluded from it. Employment not only brings an income to sustain life, but also provides an occupation and a social position. This gulf is a threat to our entire society.

107. What then is the outlook in the developed countries? Certainly, there will be a continuing need for a well-trained workforce to enable enterprises facing international competition to stay alive without relocating, even though this type of enterprise will only employ a small and probably dwindling segment of the population. And next, equally important, neighbourhood services, with a strong element of human relations, will develop. Finally, overall working time will be reduced, with two possible scenarios, either a reduction for all or the exclusion of some.

108. The educational system will not determine directly which of these scenarios will prevail, but the type of training it provides will be a decisive factor. The training of a scientific and technical elite cannot be sacrificed, but the needs of this necessary minority should not dominate the rest of the system. Fortunately, this elite will not only need technical skills, but also the same social and human skills that are necessary in jobs which primarily involve human relations. The reduction of working time makes it important for people learn to live constructively, with greater leisure time and with fewer constraints, and simply to be able to live harmoniously with others. Lastly, the scenario of allowing an entire segment of the population to be excluded from employment is unacceptable and dangerous. Exclusion begins during youth and if the gap between the best and the weakest pupils is too great by the end of initial training, then exclusion becomes inevitable.

109. This analysis suggests the priorities that should be set: to maintain a level of knowledge adapted to the modern world; to promote shared values and a culture which will enable people to live and act together; to avoid education with several tracks. VOTEC can play a role in helping to attain these three objectives. This is clearly true for the first objective, but the low status of VOTEC would have to be raised. For the last objective, VOTEC allows for other kinds of success besides general education, provided that it does not develop along elitist lines. Finally, even outside the world of work, an occupation is a facet of personal identity that enables people relate to each other and to recognise the role each one of them plays in society. For this to be possible, more than ever general and vocational education must not be separated.

NOTES

1. I have also made use of a study that I prepared for the UNESCO International Commission on Education for the Twenty-First Century (December 1993).

2. J. MIDDLETON, A. ZIDERMAN, A. VAN ADAMS, *Skills for Productivity, A World Bank Book, Oxford University Press (1993)*.

3. Technology: the science and study of techniques.

4. B. LÜTZ, The Difficult Rediscovery of "Professionality", OECD VOTEC Seminar, Apprenticeship, "Alternance" and Dual System: Dead-ends or Highways to the Future?, Marseilles, April 1994.

5. B. LÜTZ, op. cit.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

☒ This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").